



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/763,805

01/22/2004

Tapani Ryhanen

915-001.024

4990

4955

7590

10/31/2008

WARE FRESSOLA VAN DER SLUYS & ADOLPHSON, LLP  
BRADFORD GREEN, BUILDING 5  
755 MAIN STREET, P O BOX 224  
MONROE, CT 06468

EXAMINER

RUSH, ERIC

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

10/31/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/763,805	<b>Applicant(s)</b> RYHANEN ET AL.	
	<b>Examiner</b> ERIC RUSH	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/13/2004; 5/21/2004; 1/22/2004</u> .                         | 6) <input type="checkbox"/> Other: _____                          |



### DETAILED ACTION

1. In response to applicant's telephone inquiry on 20 October 2008 regarding the last Office action, the following corrective action is taken.

The period for reply of 3 MONTHS set in said Office Action is restarted to begin with the mailing date of this letter.

2. A complete copy of the last Office Action is enclosed.

### ***Double Patenting***

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim1 of copending Application No.

Art Unit: 2624

10/763,821. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of the instant application is broader in scope than claim 1 of copending application 10/763,821. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

With respect to claims 2-30: Claims 2-30 are also provisionally rejected on the same ground of non-statutory obviousness-type double patenting as being depended upon a rejected base claim, but would be withdrawn from the rejection if their base claims overcome the provisional rejection by the timely filing of a terminal disclaimer.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 – 2, 6 – 7, 9, 11, 14, 21 – 24, and 26 - 27 are rejected under 35

U.S.C. 102(b) as being anticipated by Salatino et al. U.S. Patent No. 5,862,248.

- With regards to claim 1, Salatino et al. teach a sensor arrangement comprising at least one sensor, at least one integrated signal processing circuit for the measurement of signals from the at least one sensor, and interconnecting wiring between the at least one sensor and the integrated

Art Unit: 2624

circuit, characterized in that the arrangement comprises a substrate, (Salatino et al., Column 7 Lines 19 - 30) said substrate forming at least part of said interconnecting wiring (Salatino et al., Column 8 Lines 31 - 58, Column 10 Lines 10 - 62) and said substrate is further arranged to serve as a functional part of at least one said sensor. (Salatino et al., Column 7 Lines 32 – 65, Column 8 Lines 31 - 58, Column 10 Lines 10 - 62)

- With regards to claim 2, Salatino et al. teach an arrangement according to claim 1, characterized in that said integrated circuit is attached on said substrate. (Salatino et al., Column 10 Lines 43 - 62)
- With regards to claim 6, Salatino et al. teach an arrangement according to claim 1, characterized in that said interconnecting wires are metallizations on polymer layers. (Salatino et al., Column 10 Lines 10 – 62)
- With regards to claim 7, Salatino et al. teach an arrangement according to claim 4, characterized in that it comprises a guard ring in the vicinity of the at least one sensor electrode. (Salatino et al., Column 7 Lines 38 – 51, Column 7 Line 52 – column 8 Line 18)
- With regards to claim 9, Salatino et al. teach an arrangement according to claim 1, characterized in that the sensor comprises several sensor

Art Unit: 2624

electrodes and a guard ring for each sensor electrode, (Salatino et al., Column 7 Line 37 - Column 8 Line 30) and the guard rings are controlled individually according to potential of each sensor electrode. (Salatino et al., Column 7 Lines 38 - 65)

- With regards to claim 11, Salatino et al. teach an arrangement according to claim 1, characterized in that the sensor comprises several sensor electrodes and guard rings, (Salatino et al., Column 7 Line 52 – Column 8 Line 30) and all guard rings are controlled into an average potential of the sensor electrodes. (Salatino et al., Column 7 Lines 31 - 65)
- With regards to claim 14, Salatino et al. teach an arrangement according to claim 1, characterized in that it comprises a fingerprint sensor comprising at least one driver electrode (Salatino et al., Column 7 Lines 19 - 31) and a row of sensing electrodes. (Salatino et al., Column 8 Lines 18 - 30)
- With regards to claim 21, Salatino et al. teach an arrangement according to claim 1, characterized in that said arrangement further comprises a skin contact sensor. (Salatino et al., Column 7 Lines 3 – 30, Column 11 Line 28 – Column 12 Line 19)

Art Unit: 2624

- With regards to claim 22, Salatino et al. teach an arrangement according to claim 1, characterized in that said arrangement further comprises a sensor fixed on the substrate. (Salatino et al., Column 7 Lines 3 – 30)
- With regards to claim 23, Salatino et al. teach an arrangement according to claim 1, characterized in that said arrangement comprises a biometric sensor. (Salatino et al., Column 11 Line 28 – Column 12 Line 19)
- With regards to claim 24, Salatino et al. teach an arrangement according to claim 1, characterized in that said substrate comprises means for forming a sensor together with a sensor part, (Salatino et al., Column 7 Lines 20 – 37, Column 11 Lines 28 - 60) wherein said substrate and said sensor part are galvanically separated, (Salatino et al., Column 7 Lines 3 – 37, Column 8 Lines 2 - 58) and wherein said substrate and said sensor part comprise means for transferring energy and measurement information inductively between said substrate and said sensor part. (Salatino et al., Column 7 Line 52 – Column 8 Line 30)
- With regards to claim 26, Salatino et al. teach an arrangement according to claim 24, characterized in that said sensor part comprises an active circuit further comprising means for measuring sensor information (Salatino et al., Column 7 Lines 19 - 31) and means for transferring the



measurement information inductively to said substrate. (Salatino et al.,  
Column 7 Lines 19 - 65)

- With regards to claim 27, Salatino et al. teach an arrangement according to claim 24, characterized in that said sensor is a skin contact sensor. (Salatino et al., Abstract, Column 6 Lines 35-47, Salatino et al. teach wherein the sensor detects a fingerprint which implicitly detects skin)

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salatino et al. U.S. Patent No. 5,862,248.

Art Unit: 2624

- With regards to claim 8, Salatino et al. teach an arrangement according to claim 7. Salatino et al. are silent when it comes to teaching an arrangement characterized in that wiring of said guard ring is perpendicular to the wiring of said sensor electrode. The Examiner takes official notice of the fact that wiring of a guard ring perpendicular to wiring of a sensor electrode is well known in the art and is exhibited to be a design choice of the wiring. Therefore it would have been obvious to wire the guard rings and sensor electrodes in such a way in order to allow for easy discrimination between the guard ring wiring and the sensor electrode wiring.
  
- With regards to claim 20, Salatino et al. teach an arrangement according to claim 1. Salatino et al. fail to teach an arrangement characterized in that said arrangement further comprises a pressure sensor. The Examiner takes official notice of the fact that a pressure sensor included in an arrangement such as the one of Salatino et al. is well known in the art. Therefore it would have been obvious to include a pressure sensor into the arrangement of Salatino et al. in order to activate the circuitry upon the sensing of adequate pressure of a user's finger. This modification would allow for the arrangement to conserve power while it is in an idle state.

Art Unit: 2624

10. Claims 3 – 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salatino et al. U.S. Patent No. 5,862,248 as applied to claim 1 above, and further in view of Watanabe Takaya JP 06-104641 A.

- With regards to claim 3, Salatino et al. teach an arrangement according to claim 1. Salatino et al. fail to teach an arrangement characterized in that said substrate is made of flexible film, the flexible film comprising said wiring between the at least one sensor and the integrated circuit.  
  
Watanabe Takaya teaches an arrangement characterized in that said substrate is made of flexible film, (Watanabe, Paragraphs 0011, 0013-0014) the flexible film comprising said wiring between the at least one sensor and the integrated circuit. (Watanabe, Paragraphs 0013-0014, 0019, 0024, and 0027) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Salatino et al. to include the teachings of Watanabe. This modification would have been prompted in order to allow for a stronger, more resilient, fingerprint sensor due to the pressures placed upon the sensor surface from a person's finger. The added flexibility would also allow for the sensor to be integrated into smaller more compact spaces, and devices on which a flat surface is not available.

Art Unit: 2624

- With regards to claim 4, Salatino et al. teach an arrangement according to claim 1. Salatino et al. fail to teach an arrangement characterized in that the flexible film comprises an electrode of at least one said sensor.  
Watanabe Takaya teaches an arrangement characterized in that the flexible film comprises an electrode of at least one said sensor.  
(Watanabe, Paragraphs 0013-0014, 0019, 0024, and 0027) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Salatino et al. to include the teachings of Watanabe. This modification would have been prompted in order to allow for a stronger, more resilient, fingerprint sensor due to the pressures placed upon the sensor surface from a person's finger. The added flexibility would also allow for the sensor to be integrated into smaller more compact spaces, and devices on which a flat surface is not available.
- With regards to claim 5, Salatino et al. teach an arrangement according to claim 1. Salatino et al. fail to teach an arrangement characterized in that the flexible substrate comprises wiring for an external connection.  
Watanabe Takaya teaches an arrangement characterized in that the flexible substrate comprises wiring for an external connection. (Watanabe, Paragraphs 0024, and 0027)

Art Unit: 2624

11. Claims 12 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salatino et al. U.S. Patent No. 5,862,248 as applied to claim 1 above, and further in view of Mathiassen et al. U.S. Patent No. 7,251,351.

- With regards to claim 12, Salatino et al. teach an arrangement according to claim 1. Salatino et al. fail to teach an arrangement characterized in that the surface of said substrate has a curved form in at least two dimensions. Mathiassen et al. teach an arrangement wherein the surface of a substrate has a curved form in at least two dimensions. (Mathiassen et al., Column 8 Lines 32 – 34) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Salatino et al. in view of Mathiassen et al. This modification would have been prompted in order to obtain a complete image of the whole finger surface, including the sides of the finger.
- With regards to claim 13, Salatino et al. in view of Mathiassen et al. teach an arrangement according to claim 12. Salatino et al. fail to teach an arrangement characterized in that said form approximates the form of a finger. Mathiassen et al. teach an arrangement characterized in that said form approximates the form of a finger. (Mathiassen et al., Column 8 Lines 32 – 34)

Art Unit: 2624

12. Claims 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salatino et al. U.S. Patent No. 5,862,248 as applied to claims 1 and 14 above, and further in view of Benkley U.S. 7,099,496.

- With regards to claim 10, Salatino et al. teach an arrangement according to claim 1. Salatino et al. teach an arrangement characterized in that the sensor comprises several sensor electrodes that are measured sequentially, and several guard rings. Salatino et al. fail to teach wherein a guard ring of a sensor is controlled time multiplexed to the potential of the sensor for the period of measuring the sensor. Benkley teaches wherein an arrangement is controlled time multiplexed to the potential of the sensor for the period of measuring the sensor. (Benkley, Column 11 Lines 1 - 25) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Salatino et al. to include the teachings of Benkley. This modification would have been prompted in order to allow for the sharing of A/D converters in processing the measured signals from the sensor.
- With regards to claim 15, Salatino et al. teach an arrangement according to claim 14. Salatino et al. fail to teach an arrangement characterized in that said measurement circuit is adapted to measure successive signals while the finger moves in a perpendicular direction in relation to said row

Art Unit: 2624

of sensing electrodes, for providing a two dimensional matrix of capacitive measurement results from the finger. Benkley teaches an arrangement characterized in that said measurement circuit is adapted to measure successive signals while the finger moves in a perpendicular direction in relation to said row of sensing electrodes, (Benkley, Column 7 Lines 17 – 44, Column 11 Lines 1 - 25) for providing a two dimensional matrix of capacitive measurement results from the finger. (Benkley, Column 16 Lines 25 - 58) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Salatino et al. to include the teachings of Benkley. This modification would have been prompted in order to reduce the overall size of the sensor by only requiring a few rows of sensor electrodes or as few as 1 row, allowing for the arrangement to become more compact and suitable for being incorporated into smaller electronic devices.

13. Claims 16, 18 – 19, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salatino et al. U.S. Patent No. 5,862,248 as applied to claim 1 above, and further in view of Harkin U.S. Patent No. 6,327,376.

- With regards to claim 16, Salatino et al. teach an arrangement according to claim 1. Salatino et al. fail to teach an arrangement characterized in that the arrangement further comprises an infrared light source, a infrared light

Art Unit: 2624

detector and second measurement means for measuring absorption of infrared light from the finger. Harkin teaches an arrangement which comprises an infrared light source, (Harkin, Column 7 Line 55 - Column 8 Line 29) a infrared light detector (Harkin, Column 7 Line 55 - Column 8 Line 29) and second measurement means for measuring absorption of infrared light from the finger. (Harkin, Column 7 Line 55 - Column 8 Line 29) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Salatino et al. to include the teachings of Harkin. This modification would have been prompted in order to increase "the security of recognition or authentication by providing further validation and reducing the possibility of fraudulent deception through use, for example, of a replica finger." (Harkin, Column 8 Lines 40 – 44)

- With regards to claim 18, Salatino et al. teach an arrangement according to claim 1. Salatino et al. fail to teach an arrangement characterized in that said arrangement further comprises a temperature sensor for measuring ambient temperature. Harkin teaches an arrangement comprising a temperature sensor for measuring ambient temperature. (Harkin, Column 8 Lines 24 – 29) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Salatino et al. to include the teachings of Harkin. This modification would have been



prompted in order to increase “the security of recognition or authentication by providing further validation and reducing the possibility of fraudulent deception through use, for example, of a replica finger.” (Harkin, Column 8 Lines 40 – 44)

- With regards to claim 19, Salatino et al. teach an arrangement according to claim 1. Salatino et al. fail to teach an arrangement characterized in that said arrangement further comprises a humidity sensor for sensing ambient humidity. Harkin teaches an arrangement comprising additional biosensors capable of detecting biometric characteristics. (Harkin, Column 8 Lines 1 – 44) Harkin does not specifically teach a humidity sensor for sensing ambient humidity but teaches the use of a variety of biosensors, temperature, pulse, oxygen, and leaves it open for "other kinds of biosensors...". The Examiner takes official notice of the fact that the inclusion of additional biosensor(s) such as a humidity sensor is well known in the art. Therefore it would have been obvious to include a humidity sensor into the arrangement of Salatino et al. This modification would have been prompted in order to increase “the security of recognition or authentication by providing further validation and reducing the possibility of fraudulent deception through use, for example, of a replica finger.” (Harkin, Column 8 Lines 40 – 44)

Art Unit: 2624

- With regards to claim 28, Salatino et al. teach an arrangement according to claim 1. Salatino et al. fail to teach a mobile terminal, characterized in that it includes a sensor arrangement according to claim 1. Harkin teaches an arrangement in which a sensor arrangement is included in a mobile terminal. (Harkin, Column 10 Lines 15 - 50) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Salatino et al. to include the teachings of Harkin. This modification would have been prompted in order to incorporate an added level of security into personal portable electronic devices.
- With regards to claim 29, Salatino et al. in view of Harkin teach a mobile terminal according to claim 28. Salatino et al. fail to teach a mobile terminal characterized in that at least part of the sensor arrangement is encapsulated, such as molded, in the cover of the mobile terminal. Harkin teaches a mobile terminal characterized in that at least part of the sensor arrangement is encapsulated, such as molded, in the cover of the mobile terminal. (Harkin, Fig. 7, Column 10 Lines 15 – 50)

14. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Salatino et al. U.S. Patent No. 5,862,248 in view of Harkin U.S. Patent No. 6,327,376 as applied to claim 16 above, and further in view of Mathiassen et al. U.S. Patent No. 7,251,351.

Art Unit: 2624

- With regards to claim 17, Salatino et al. in view of Harkin teach an arrangement according to claim 16. Salatino et al. fail to teach an arrangement characterized in that said infrared light source and said infrared light detector are located at opposite sides of a groove designed for a finger. Harkin teaches an arrangement characterized in that said infrared light source and said infrared light detector are located at opposite sides of a surface designed for a finger. (Harkin, Column 7 Line 55 - Column 8 Line 29) Harkin fails to teach a groove designed for a finger. Mathiassen et al. teach an arrangement comprising a groove designed for a finger. (Mathiassen et al., Column 8 Lines 32 – 34) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Salatino et al. in view of Mathiassen et al. This modification would have been prompted in order to obtain a complete image of the whole finger surface, including the sides of the finger.

15. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Salatino et al. U.S. Patent No. 5,862,248 as applied to claim 24 above, and further in view of Kim U.S. Publication No. 2003/0210809.

- With regards to claim 25, Salatino et al. teach an arrangement according to claim 24. Salatino et al. fail to specifically teach wherein the arrangement is characterized in that said sensor part is a passive circuit.

Kim teaches an arrangement wherein a sensor part is a passive circuit.

(Kim, Page 3 Paragraph 0041) It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Salatino et al. with the teachings of Kim. This modification would have been prompted in order to "maximize the effectiveness of each sensing circuit element" and to minimize the connections to the signal processing chip. (Kim, Page 1 Paragraph 0013)

16. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Salatino et al. U.S. Patent No. 5,862,248 in view of Harkin U.S. Patent No. 6,327,376 as applied to claim 28 above, and further in view of Watanabe Takaya JP 06-104641 A.

- With regards to claim 30, Salatino et al. in view of Harkin teach a mobile terminal according to claim 28. Salatino et al. fail to teach a mobile terminal characterized in that the sensor arrangement comprises a flexible film substrate and the flexible film substrate is encapsulated in the cover of the mobile terminal. Harkin teaches wherein the substrate is encapsulated in the cover of the mobile terminal. (Harkin, Fig. 7, Column 10 Lines 15 – 50) Harkin fails to teach wherein the sensor arrangement comprises a flexible film substrate. Watanabe Takaya teaches a flexible film substrate. (Watanabe, Paragraphs 0013-0014, 0019, 0024, and 0027) It would have been obvious to one of ordinary skill in the art at the time of the invention

Art Unit: 2624

to modify the teachings of Salatino et al. in view of Harkin to include the teachings of Watanabe Takaya. This modification would have been prompted in order to allow for a stronger, more resilient, fingerprint sensor due to the pressures placed upon the sensor surface from a person's finger. The added flexibility would also allow for the sensor to be integrated into smaller more compact spaces, and devices on which a flat surface is not available, such as a mobile terminal.

### ***Conclusion***

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Mainguet U.S. Patent No. 6,289,114; which is directed to a fingerprint reading system.
- Raynal et al. U.S. Patent No. 6,643,389; which is directed to a narrow array capacitive fingerprint imager.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC RUSH whose telephone number is (571)270-3017. The examiner can normally be reached on 7:30AM - 5:00PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew C Bella/  
Supervisory Patent Examiner, Art  
Unit 2624

ER